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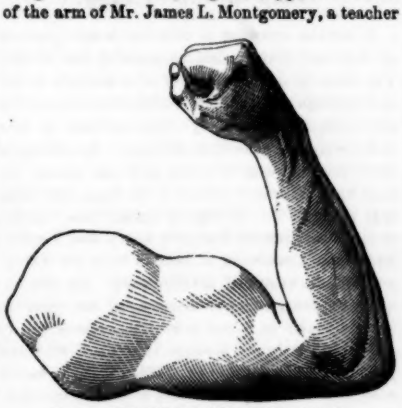
MUSCULAR EXERCISE.

There is no subject more important to mankind than exercise. This, to the day laborer, would seem to be of no consequence, since he has enough already. If laborers understood better than they do the laws of exercise, fewer of them would become broken down by excessive and injudicious labor. It is the *quick start* that breaks the harness, not the steady pulling of the heavy load; and it is the special and often unnecessary strain that lames the young worker for life.

The writer of this article very *boyishly*, at thirteen years of age, carried on his shoulder a two-bushel basket full of apples, and as he raised up on his toes to empty the basket into the cart he strained the small of the back, and from that day to this, now more than a third of a century, this lameness is brought on at every strain or sudden jar. Had he been content to go twice with a bushel, instead of once with two, the labor would have given strength.

But persons of sedentary habits, professional men, women, students, clerks, and children who are growing rapidly, are those who most need to study the laws of physical exercise. For years we have urged upon those who call for phrenological examinations and advice as to health and mental culture, the necessity of judicious exercise as a means, not only of health and life itself, but of building up the body so that the brain could be properly sustained. There is such a thing as taking so much exercise that the muscles are enlarged at the expense of the brain; but where one suffers in this way, ninety-nine suffer from exercising too little, and using the mind too much. The effects of exercise upon growth of muscle, and the increase of power thereby, would hardly be believed by those who have taken no pains to be informed in regard to it. The engraving which we give was taken by daguerreotype from a cast of the arm of Mr. James L. Montgomery, a teacher



J. L. MONTGOMERY'S ARM.

of gymnastics and keeper of a gymnasium at 159 and 161 Crosby Street, New York. This cast, taken in plaster, may be seen hanging in our cabinet. It shows how much increase may be made by exercise after the person has attained his natural growth.

Mr. Montgomery commenced the practice of gymnastics when about 19 years of age—was quite slender—weight 145 lbs.—chest 36 inches, arm around the biceps muscle or upper arm, 12½ inches. At the time the cast was taken he had practiced about four years—weight increased to 160 lbs.—chest 43 inches, *fore*-arm 13½ inches, around the biceps or upper arm 15¾ inches. Of late years Mr. Montgomery has confined himself chiefly to practice with the dumb-bells—when he commenced could with difficulty raise 56 lbs.—has by judicious practice since raised a weight of 115 lbs., and is now practicing to raise a dumb-bell of his, which weighs 130 lbs.

A recapitulation shows the following improvement:

	Weight.	Chest.	Upper arm.	Power.
Now	160 lbs.	43 in.	15¾ in.	115 lbs.
Then	145 "	36 "	12½ "	56 "
Gain	15 lbs.	7 in.	3¼ in.	59 lbs.

THE ORGAN OF INDUSTRY.

It is said of some people that they love to work, while others regard labor as a penalty for man's transgression, and the greatest ill flesh is heir to. We believe man was created to be employed—to labor; if not, wherefore his Constructiveness and restless energy—wherefore his mathematical faculties? Are they given to him with which to dream his life away—to build castles in the air, imaginary railways, and phantom ships? Look at the child as soon as it can sit alone. It works busily every wakeful hour, and when it can walk about, is it not continually experimenting upon everything—building and pulling down? The play of children is their work, and do they not work earnestly? They are never so happy as when they have plenty to do.

Most animals show nothing of this sort. They seem intent on procuring their food as they want it. But when the ox has filled himself, he seeks the sequestered shade, and lies down and chews his cud. The pig plows only for roots, insects, and fresh earth; though he sometimes appears to us to tear up the earth for very mischief—to work out the evil spirit which once entered him. It is his nature to find a portion of his food in the ground, therefore he roots, just as a chicken will scratch furiously when feeding from a grain heap on the threshing floor. Hens were not organized to eat from grain heaps, but to find their food, particle by particle, on the surface of the ground, or to scratch for it after it has fallen from stalk or shrub and become covered by the soil, or to

scratch for worms and insects in the ground. But when the chicken is satisfied with food, she rests; and when the pig has obtained his fill he imitates another class of idle gentlemen, and takes a nap in the middle of the day. Industrious, then, as this animal is when hungry, he is not a worker; and ever active as are birds, they are not workers, except temporarily, when they obey the instinct of nest-building, and are feeding and rearing their young.

Industry appears to be coupled with laying up articles of use—and also joined in its action to the faculty of Acquisitiveness. Man would be unhappy indeed, to be endowed with hunger, if he had no means to gratify it—with a love of property, and no ingenuity to construct the things his tastes or his necessity demand; but with ingenuity to construct, and an ardent desire to possess things, he would be unhappy if he had no disposition to work, or a strong aversion to it.

There is certainly a great difference in the industry of men. To some, labor is their very life—they can not live without it. They feel that they must be busy every waking hour, and they are never happy when they have nothing to do, and their industrious tendency seems to bear no relation to their necessities. Rich, they will work; or if they are in the poor-house, they are utterly miserable if they have nothing to do; and they would prefer to dip sand from one tub to another rather than to be idle.

Others, who are miserably poor, and at the same time selfish and perhaps avaricious, dread work so badly that they will do nothing except when hunger and cold pinch them. They will acquire a loaf of bread, or, like the Indian, capture a bear, and lie by it until it is all consumed, and even until they begin to feel the keen demands of appetite. Then they sally forth and reluctantly but fiercely work to mitigate present want.

Is there not, therefore, an organ of industry, as well as an organ that desires the fruits of industry? and should not man be organized so that labor which is absolutely necessary for his subsistence and comfort should be to him a desire and a pleasure, rather than a task and a burden? Why should he be organized with these pressing necessities and with a desire for acquisition, and yet not have a faculty which makes it a pleasure to use the means to gratify acquisitiveness and to supply the wants of the body; and also the means to gratify the love of music, art, and all that goes to make up a high order of civilization?

It may be said that Combativeness and Destructiveness, joined with Constructiveness, are a sufficient stimulus to action and industry. But our idea of industry rises higher than merely a spirit to build and pull down again. When the little boy who is playing work has got half the chairs in the room harnessed into an imaginary team, he is not satisfied until he mounts his chariot and applies his whip to his stationary steeds. He must ride as well as harness—he works for use.

If there be an organ of industry, it should be in the neighborhood of Constructiveness and Acquisitiveness. A correspondent asks us why we leave a place blank on our symbolical head published in the "Self-Instructor," situated forward of Acquisitiveness, above Alimentiveness, and below Constructiveness, which blank is indicated by a star. He inquires of us—what faculty, if any, that portion of the brain manifests? We have for some time suspected it had something to do with the disposition to be industrious, and we would suggest to our correspondent, and to phrenologists generally, to make observations on this point.

We have a friend who has this portion of the head largely developed, in conjunction with the lower part of Acquisitiveness; and although he is by no means grasping or money-making, he is remarkable for his quiet industry; is always busy, even though his time might be made to earn ten times as much. He will be picking up things of little value—such as bits of pack-thread, blank leaves of letters, or be doing something perhaps of little profit, with an apparent feeling of satisfaction when employed, and of uneasiness when unoccupied.

We shall continue to watch the manifestations and note the instances in which this industrious tendency is exhibited by persons who do not show the love of property, as a motive of that industry. We think, however, that man's necessity furnishes a reason why he should have Acquisitiveness, and that Constructiveness and an element of industry follow as a matter of course, to make up a harmonious character. Still, we study faculties often to the best advantage, when they are seen to act without necessity, and even against the law of necessity. We are strongly inclined to think there is an organ which gives the tendency to INDUSTRY. We invite observation and comments on this point.

AGAMOGENESIS:

OFFSPRING WITHOUT UNION.

A LIVING question of this day is the question of Sex, and of the relations growing out of Sex. The issue is not a phantasy of a writer's brain. All through the civilized world—more especially all through this country—this question is now being weighed, examined, debated. According to their several turns of mind, men and women reflect upon it, reason around it, or dogmatize their way through it. Pruriency incites many to this subject, intellectual curiosity not a few, benevolence and conscience at least a "forlorn hope," perhaps an army, of investigators. As the inquiry spreads, and the intricacy of the question increases—for it is not a work for schoolboys to do—it is surely not strange that some wild and pernicious solutions of it are offered. Men find it easy to frame conclusions and to pile up systems; time and experience test their quality and their worth. The truth will be clear by-and-by; and when once clear, it will be like a demonstration in the mathematics, unanswerable to all minds above the grade of idiocy. It is not so now, however much *individual sovereignty* may please, as taught by certain very conspicuous "*individuals*" of our day. Will it not be well to remember that a true individuality entitles the hearers of a doctrine to reject, as fully as it commissions the teachers to promulgate it? There are those among us who prefer the slow analysis of reasoning, the oft-repeated collecting and questioning of all the facts, to the most beautiful and boundless realms of theory to which a swift-footed intuition so often strives to hurry us.

I do not promise that the subjects I am about to present will shed a very strong or correct light on the more important questions mooted at the present day in regard to Sex, its perquisites, and obligations; but I am sure the facts to be offered, and for most of which I acknowledge my indebtedness to papers in the *British and Foreign Medico-Chirurgical Review* and the *London Saturday Review*, will be considered as highly curious, while they at least form part of the grand sum of phenomena that must be amassed and sifted before the questions above alluded to can receive a final and satisfactory answer.

To an observer of nature's processes in the business of generation, the most natural and almost unavoidable generalization is, that certainly in the animal realm, probably in the vegetable, offspring can only be the result of a sexual union, though this union may be either obvious or concealed. And yet, certain curious inquirers among the ancients amused themselves by hunting up cases of what they termed "*lucina sine concubitu*," or offspring without the intervention of this supposedly necessary conjunction of opposite sex-principles. Singularly enough, too, while disproof or doubts have been the final fate of all those ancient instances, it has been reserved for a very modern period to show that, so far as *individual phenomena* go, the old fancy is, in other sets of instances, a fact in positive science.

In plants we find three long-recognized modes of reproduction: 1. The *Phanerogamic* or ordinary bi-sexual production, such as occurs in flowering plants, or those having in some form the appendages known as stamens and pistils, and which produce true *seeds*; 2. The *Cryptogamic*, in which the bi-sexual organisms and relations are not obvious, and which propagate by means of genesic granules or *spores*; 3. The *Fissiparous* and *Gemmiparous* modes of reproduction, which are different forms of the same process, and in which a single individual gives rise to many similar successors, by means of successive cleavings into two, or the formation and casting off of buds. Somewhat similar to the last is propagation by *slips* or *cuttings*, which, taken from some plants, are capable of striking root into the soil, and of becoming complete plants, living longer than the parent plants from which they were taken.

In the animal world we also find three modes: 1. The *Viviparous*, or direct production of young by birth; 2. The *Oviparous*, or indirect production, through eggs; 3. The *Fissiparous* and *Gemmiparous*, or production by spontaneous cleaving, or by buds cast off to form complete animals; and to this also are analogous the cases in which an animal being mutilated or severed in parts, each portion goes on to develop a new and complete individual, as in the Polype.

But a class of phenomena apparently new was first well established by M. Bonnet, about the middle of the past century. His first discovery revealed the fact that the *Aphis* (plant-louse) may produce a numerous offspring, which again shall produce for several generations in succession, without sexual intercourse, or the intervention in any conceivable way of the masculine principle. To this singular result M. de Quatrefages gave the name of *Agamogenesis*, or generation without sexual union. Before coming directly to Bonnet's experiments, however, we will devote a few thoughts to the analogous instances observed

and collected by M. Von Siebold, Professor of Zoology and Comparative Anatomy in the University of Munich, and published by him in a volume translated and issued in London, in the year 1857.

To certain cases of the kind now considered Owen gave the name of *Parthenogenesis*, or generation by virgins. The propriety of the name is doubtful. It implies two things: that the producers are perfect ordinary females of their species, and that the production is that of perfect ordinary offspring. In most cases, as will be seen, both of these conditions fail, and in all cases, at least, one of them. The term before proposed denotes only birth without union, without deciding as to the character of either parent or offspring; hence it is preferable. These cases of what may be called unusual, and in some instances *unisexual* generation, Von Siebold investigates as they present themselves in, 1, certain species of sac-bearing lepidopterous (four-winged) insects; 2, the silk-worm moth; 3, the honey-bee. In the Lepidoptera this mode of production results in furnishing females only; in the silk-worm moth, both sexes. The most complete set of observations he obtained in relation to the honey-bee, in studying which Dzierzon also was engaged.

The queen-bee, it is found, takes a single flight from the hive in youth; and during this, the "wedding flight," the noise of the queen's wings attracts the notice of the males (drones) hovering at the time in the air, the impregnation of the queen-bee takes place once for all, for her period of five or six years of life, and she returns to the hive to deposit at proper periods the germs of successive swarms or colonies of her species, but in each case of at least three different varieties. Examination with the microscope shows that all the eggs destined to become workers (imperfect females), or queens (perfect females), are impregnated in the ordinary manner, by the contact or penetration of spermatozoids; while those that are to become drones (males) undergo no such influence. In spite, therefore, of the union which has taken place, the production of the male bees is agamogenetic, or without aid from the paternal element.

In proof of this conclusion, if the queen-bee have her wings crippled from birth, she takes no flight, and then, producing only drones, ruins the hive. So, by pinching or freezing one side of her body, she becomes barren in respect to that side, and thenceforward produces unisexually, or males only. We are not specially informed whether the result is the same whichever side be affected. A like result occurs in her old age; drones only are produced, because the spermatozoids have become exhausted. But before this date, the queen may produce males or females at will; the result probably being determined by the size and shape of the cells selected to thrust the body into, for the purpose of depositing the eggs. A different degree or point of pressure on the body will thus call different nerves and muscles into action, without any voluntary act on the part of the queen further than that of choosing the kind of cell; and even this apparent volition is doubtless determined in a like manner, or automatically, by the peculiar conditions to which she is subjected at the time. Thus, these results are brought about in the same manner as the choice of particular angles and arrangements in the construction of the cells; not through any intellectual perception on the part of the bee, but by a *reflex* or automatic action of its organs, called into exercise through appropriate stimuli applied from without. It is said, also, that though the workers never experience a sexual union, they sometimes produce eggs, but in such case always those of drones It is possible that future study may somewhat modify these results.

A wonderful contrast thus holds between the habitudes of bees and those of the higher animate, including the human world. It is entirely safe to say that a contrast so wide and persistent has its foundation in nature. Bees constitute, as was well recognized in early times, a true "feminine monarchie." And in their economy they illustrate a species of *reversed polygamy*, followed by a final and irreversible divorce, that would ill accord with the mental constitution of that species which claims to stand at the head of the animal creation.

We return to Bonnet's experiments. This observer carefully isolated a newly-hatched Aphis, by inserting the twig upon which it was in a vessel of water, and covering the whole with a glass shade. The Aphis gave birth to four-score living offspring, instead of depositing eggs. One of these was at once isolated, and with a like result. And the process went on as long as Bonnet continued to observe, or for nine successive broods.

How are we to account for this singular state of things? The aphides appear early in spring. The number in a brood, and the time they require for arriving at maturity, vary with the temperature and the supply of food. The brood usually averages 100 members, and the propagative capacity is acquired in about two weeks. Hence, in the course of a summer there may be thirteen or fourteen families. Thus myriads of these animals are brought into being, that have, *directly*, no fathers. Kyber confirmed and extended these observations. He found that if warmth and food be bountifully supplied, the agamic or fatherless production will go on for two or three years without diminution. These offspring are either winged or wingless, and the secluded Aphis may give birth to millions of them. But they are seldom, if ever, males; they are almost all females, and imperfect ones, like the worker-bees. But the true females are always *wingless, can only produce after sexual union, and then always lay eggs, never giving birth directly to living offspring*. The true females lay their eggs, and then die. And the true males and females are ordinarily only produced as cold weather approaches, or the supply of food falls short. The eggs which they leave endure through the winter, and in spring hatch out, not true males and oviparous females, but a brood of imperfect or viviparous females.

Thus in this animal there is a cycle of changes. Between two links of ordinary or parental generation there are interposed a large but varying number of links of non-parental or organic generation. The latter, once set up, goes on so long as the vital conditions are abundant—so long as life is luxuriant. When the conditions, and of course the vitality, are lowered, things return to the normal or usual state again; and ordinary animals of the two sexes then appear—the females wingless, the males winged or wingless. The microscopic examination of these animals shows the presence of the organs of reproduction; but that of the imperfect or viviparous females shows the presence of neither *ovaries* nor *testes*. In place of the former, the viviparous Aphis has organs somewhat resembling ovaries, but tubular; and in the ends of these tubes are discovered bodies similar to the ova of the true female, but which are not deposited as eggs, but developed into living insects before their connection is severed.

Hence it follows that, like the millions of buds producible in certain species, from a single vegetable stock, the millions of agamic or imperfect aphides are really but parts of the individual perfect Aphis from which they are all produced. The astonishing phenomena witnessed in this species of insect are, after all, no real exception to the universal law that requires the union of opposite sex-principles in order to the generation of new individuals of any species. The real individual of the Aphis kind is the perfect male or female; yet by a kind of exuberance or freak of the vital processes, the perfect female is endowed with the capability of putting forth a large crop of animal *buds*, which again bud in repeated succession, before the individual is exhausted; then a final bud is modified to the original or individual form, and it must perform the neglected office of that original, or the line runs out. Thus, in this species, nature goes and returns between ordinary bi-sexual generation and *gemmation* (budding), or between the method by eggs and the method of the Polypus; and the organic progeny are not really fatherless, but the successive broods and countless individuals have one paternal and maternal origin—the perfect male and female preceding the first agamic brood in the series.

In almost, if not quite, all animals, a budding process really goes on. The highest organism starts in a cell—the simplest form of animal organization—and buds out, or *differentiates* into a multitude of cotemporaneous structures, which remain associated, forming a *body*, and performing different functions that are made to conduce to common ends. But in lower organisms these buds never differentiate so widely in structure and function. They tend rather to enlarge a homogeneous mass, as in the mushroom or the medusa; or else they are cast off to assume an independent and similarly low form of life. This is the case with the Polype, and with portions of the Liverwort and the bulbiferous Lily. As the Saturday Reviewer well remarks, physiologists can no more tell why, in higher organisms, one part differentiates into a liver, another into brain, one into muscular fiber, another into galvanic or nerve-cell, than they can say why one Aphis-germ is wrought at once into a living fetus, and as such produced, while another stops to be excluded in the condition of an egg, thereafter to be hatched perhaps into a gamic or complete male or female. But according to the view now taken, the drone-bees must be considered as another instance of the entering of production by *buds* into the living economy of animals somewhat elevated in the scale. Among still other cases may be

named the Daphniæ (water-fleas) and some butterflies, the isolated females of which are capable of producing successive broods of imperfect or agamic young.

The vegetable world has been found also to furnish many examples, of which a single one will here be detailed. The *Calebogyne Ilicifolia* (literally, *holly-leaved spinster*), discovered at Moreton Bay, Australia, and sent to the Royal Botanic Gardens at Kew, has flourished since that time, flowering and bearing fruit regularly. This tree is dicecious, having the stamens on one plant and the pistils on another. The single specimen found is *pistillate;* and yet not only does the fruit continue to form, but the seed is perfect, and the seedling grown from it shows no marks of being a hybrid (result of intermixture with another species). Further, microscopical examination shows that the seed has been formed without the aid of pollen from a male plant. Until the contrary is proved, however, we must conclude that this is an example of vegetable gemmation in a peculiar form—namely, through fruit and seeds, rather than in shoots or stems simply, as in the ordinary cases—and that here the paternal influence is still propagated through what appear to be successive generations, but are in reality parts of one peculiarly developed individual.

Thus our researches terminate for the present, not as at first appeared probable, in showing that, at least in certain cases, the males of a species are creatures devised for purposes "rather ornamental than useful," nor in showing that under peculiar circumstances the masculine or paternal element can be dispensed with; but simply in the discovery that, in certain species or under peculiar circumstances, propagation by buds enters into and diversifies, in an unexpected manner, the ordinary round of parental generation. The highest being in which this has yet been shown to take place is, it is believed, the honey-bee. L. R.

MARRIAGE VINDICATED, AND FREE LOVE EXPOSED.

[From "Thoughts on Domestic Life: or, Marriage Vindicated, and Free Love Exposed." By Nelson Sizer. Published by Fowler and Wells, New York. Now in Press. Price, by mail, 15 cents.]

SECOND EXTRACT.

We come now to a point requiring the assertion and exposition of another law of nature, viz.: every additional faculty possessed by one species of animals above those of others raises that species above the others in the scale of being. The building faculty of the beaver makes him superior to animals of equal size and strength who do not possess the constructive element. The commonwealth government and building habits of bees raise them vastly above most other insects.

The oyster has two, perhaps three, mental instincts. He feeds, procreates, and shuts his shell when assailed. The shad feeds, procreates, sees, resists aggression, fears danger, and has the power of locomotion. The oyster has three, and the shad not less than seven, powers or faculties. The shad is, therefore, much superior to the oyster, and of course is much nearer to man in the scale of being. Frogs, turtles, shad, and many insects, deposit their eggs where the warmth of the sun, acting on the water or the sand, will hatch them, and this ends their care for their young. It is not Philoprogenitiveness. It does not rise to that dignity. As the little turtle, hatched in the warm sand, on the shore where the egg was buried in the immediate neighborhood of thousands deposited by other turtles than his mother; as the little fellow, with his new-found and untrained legs, finds his way to the contiguous water, his mother does not recognize him as her own from any other one of a thousand who are digging their way out of the sand and seeking the common ocean. Some fishes are said to watch and protect their eggs until their young are hatched. This certainly is a step above the turtle; and some are said to protect their young until they are large enough to shirk for themselves. This is a step above the common run of fish who devour their own young with as much rapacity as they do the progeny of others. The whale suckles its young and protects it until it is old enough to be weaned. This certainly evinces a superiority of mental organization over all others of the finny tribes. As we rise in the scale of being—as we meet with animals having an increased number of faculties, we find them taking better care of their young. The cow, the mare, the hen, show great care for their young. The hen, unlike the turtle, the fish, and the frog, incubates her eggs day and night for weeks, warming them with her own bosom, and when they are hatched, she feeds, protects, and broods her young. Here is Philoprogenitiveness. This is love of young. But where are the fathers, meanwhile? Do they consort with, cheer, and protect the mother during gestation, and help to protect and feed the young when produced, or do they even know or acknowledge them as their own? Not at all; never! They wander forth unshackled by any affectionate ties, like genuine free lovers, seeking new objects and fresh conquests, forgetting the former union, and caring nothing for its fruit. The wild turkey tries to destroy the eggs or the young when hatched, and consequently the hen hides her nest from the male, and keeps her young out of his sight until they are well grown. Since, then, these males do not manifest Philoprogenitiveness, we regard those species of animals as less perfect and elevated than those in which the male as well as the female love the young and help to feed and protect it. But since these animals lack the organ of "Union for Life," and therefore associate promiscuously, the males do not know their own progeny, consequently the organ of Philoprogenitiveness is wanting in them.

But in all classes of animals which choose their mates, the male takes an interest in the young, showing that they possess two more faculties than those which do not mate, viz., Union for Life and Philoprogenitiveness. The gander, who chooses his mate, helps to select the site for the nest, aids his consort in building it, sits by her side during the weary weeks of the long incubation, and when the downy brood is hatched, with what pride and stately gallantry does he lead and protect his family, and woe to the boy or dog who gets too near or becomes too familiar with the goslings!

Some birds and animals choose their mates every year during the breeding and rearing season. In all these cases the male adheres to his mate with fidelity, and also helps to protect, feed, and rear the young. In some cases after the young are reared, as with wolves, the parents divorce themselves and separate, each seeking an individual maintenance, prowling solitary in the mountains. Several species of birds which belong to adhesive or gregarious tribes choose mates for the season, and after their joint effort and care have reared the brood, they dissolve their matrimonial relationship, and fall back as members of the general flock. On the return of "St. Valentine's Day" they again choose mates, perhaps the same as the year before, perhaps not. It is, nevertheless, restricted intercourse, and always connected with the possession by the father of the faculty of Philoprogenitiveness. Those which choose mates yearly are superior to those which associate indiscriminately, and those we regard as noblest and highest which choose the companion for life.

Animals which trust their eggs or young to chance are low in the scale of being—at least in the social scale; those in which the mother shows Philoprogenitiveness, as the hen, are raised a degree higher; those which have the mating propensity, and the male as well as the female shows a love of young, though they mate yearly, occupy one degree higher; and, finally, those which choose mates for life, and both parents help to rear and also remember their young longer than any other class, approximate in their social qualities the true characteristics of the human race, and are thus the highest of all.

We will not claim that each animal which chooses its mate is superior in intellectual sagacity to all classes which do not, but we do assert that they are superior socially. And now we are prepared to remark that the most perfect human being is he who has, in the best and most harmonious development, all the faculties which can be found in all the lower animals, with those faculties superadded which rise above the animal scale and constitute man's special superiority. We refer, of course, to the moral sentiments, imagination, wit, and the higher reason.

The civil law recognizing the Monogamic union is only the written expression of the public sentiment.

No law which did not find in man's nature a sentiment or a feeling in accordance with it-

self ever came into being by public consent and for ages commanded the public respect. For example, selfishness and justice in the human mind, acting in concert, have established the law of property. I work for an object and obtain it, from the bowels of earth or ocean, and by virtue of that labor my selfhood claims that product of labor as its own. My neighbor, endowed with equal or superior ability to labor and achieve, looks on and sees my success, and his sense of justice recognizes in me the right, as lawyers phrase it, "to have and to hold for my own use and behoof" the good thing which my labor has won. Each man having Acquisitiveness desires property, but each also having Conscientiousness, which is the foundation of justice, leads him to respect the right of property in others.

The law of marriage has existed as long as the law of property, and though repudiated by some people, nevertheless we claim that this law originates in the very life and being of man himself. Marriage may have foolish and grotesque ceremonials, as religion, or the element of worship, which is patent in every sane mind, may be loaded with senseless forms and debasing superstitions; yet from man's heart of hearts there flows forth spontaneously a sentiment which seeks companionship, and that for life, with one woman, who shall be not only his other half, but the mother of his children; who will rejoice with him at their birth, and join with him in effort to educate, develop them into mature manhood and perfect womanhood. As this takes a lifetime, marriage, which precludes indiscriminate association, and some form of religious worship, alike, belong to every well-constituted human being, as much and as literally as his backbone, and we hazard nothing in the assertion that the number of those who are so constituted as to feel marriage in itself to be a yoke of bondage is as few as are those unfortunate beings whose spines are too weak to sustain their bodies in an erect position. Those who inveigh against marriage belong to one of three classes—first, the dissolute and base; second, those who are improperly wedded through carelessness, vanity, or selfishness; or third, those who lack a proper development of one of the social organs, called "Union for Life," and are thereby unqualified to manifest the connubial feeling. Such persons should therefore be cautious how they expose their character; at least should they refrain from trying to become teachers of others on a point where they can but show their own weakness. If they are actuated by the first state of facts, mere sensuality, shame should make them silent; if by the second, the fault is their own, not in the institution, and they do but confess their own folly and selfishness when they ignore the marriage relation; but if by the third consideration, viz., a lack of the faculty of Union for Life, they should be taught that those who are idiotic in any sense, as they evidently are in the feeling which makes two hearts one, they are the very last persons on earth who should assume to put forth theories on this subject, in regard to which they, of course, can know nothing. As well might the blind ignore for the entire race all the facts and laws of color, or the deaf decry music, or the intellectual idiot all that pertains to logic and common sense.

That there are partial idiots—those who are destitute of certain faculties, while all their other mental powers are well manifested—needs no argument to prove. In the same family, it may be, one is wholly deficient while another is a genius in figures, or mechanism, or music, in logic, or in language; one is bold and daring to a fault, another is pusillanimous; one is sharp in acquiring and laying up property, another with equal intellect seems to have no idea of, or rather *feeling*, which values property; one is proud, another has no sense of dignity; one is cautious, another is reckless; one is sensitive to praise, and rejoices more in the good-will of his fellows than in anything else, another cares nothing for reputation, and in his rudeness and vulgarity contemns public sentiment; and in morals—one feels keenly the sense of justice, has an active and strong Conscientiousness, another feels little or no compunction; one has the spirit of Veneration and respect, another is impudent to superiors, and feels no reverence for God and things sacred; one is hopeful, another desponding; one is sympathetic and benevolent, another deaf to the cries of the distressed. In respect to the social qualities, also, one loves children, another with a general character equally high and noble lacks Philoprogenitiveness, and regards children and pets as a nuisance; one is adhesive and fraternal, another is unfriendly and solitary in disposition; one is amatory, another is simply Platonic in affection, and is deficient in sexual love; and would it therefore be strange, if, in the organ of *Union for Life*, or the faculty of marriage, some should be found who are defective, idiotic in its development and manifestation? and shall we accept our code of morals from such persons? If those who object to marriage belong to this class, we must regard their teachings as we would the ravings of the madman, the senseless incongruities of the idiot, or the maudlin twaddle of the drunkard, for the simple reason that they are blind guides, not having the faculties requisite to give them any sound judgment on the subject. For be it remembered that taste, ambition, social affection, and moral sentiment arise not from intellect, but from emotional instincts, and from a correct and healthy action of these alone can their respective questions be settled. If those who object to marriage belong to that class who are governed by sensuality, or by an excess or perversion of the amatory element, it requires no argument to repudiate their claims to the position of teachers on this subject, however intellectually wise they may be on other subjects which have intellect, and not a feeling for a basis.

If, again, those who object to marriage belong to the class who are badly mated, the greatest concession we could willingly make to them would be to grant them a separation from each other, but not necessarily the liberty of forming an equally unfortunate alliance with other parties, thus permitting one unmateable man to bring sorrow into a dozen families in his fruitless endeavors to find a counterpart to his eccentricities; much less would we accept as the truth his anathemas of marriage, simply because he is unmateable, or has, in a marriage of "convenience," or of sordidness, or of a baseless fancy, been mismated.

The exceptions must not destroy the rule. Fire badly managed may consume a house. Shall we not, therefore, use fire or build houses? Late frosts sometimes destroy crops; shall we, therefore, plant no more? Shall the race repudiate marriage because one in ten thousand is a corrupt lecher and would break down all the barriers of virtue, so that in universal license his own corruption may be lost; or because one in the ten thousand is unwisely mated, shall we therefore break up all marriages, unmate all, so that those who are now mismated may have company in their misfortunes; or because one in ten thousand is idiotic in social development, and can not appreciate and enjoy connubial unity, shall, therefore, the nine thousand nine hundred and ninety-nine turn their backs upon one of the dearest laws of their being, and descend to the level of this *one* unfortunate being? As well might philosophy succumb to idiocy, or the university bow before the pratings of a clown.

Age and Decision.—A friend mentioned to us this week one of the most remarkable illustrations of decision, in breaking away from a long-continued habit, that we ever heard. It was in the case of a relative of his, a venerable old gentleman, 94 years of age, who had been in the daily habit of using his pipe and tobacco for more than seventy years. As the result of mature deliberation, he suddenly, one day, surrendered the weed and all its accompaniments into the hands of his family, with the very emphatic declaration, "There, take 'em away, I've done, I shan't smoke any more—I won't die with a pipe in my mouth." This determination was not in consequence of any consciousness of impaired vigor by the use of tobacco, for the old hero had never been sick a day in his life, had never been obliged to call a physician, and had never known anything whatever of the depression of disease—but it came from the exercise of a wise, manly resolution. All honor to a veteran of 94 who could conquer a habit that had endured through "three-score and ten!" John Leighton, Esq., of Boston, is the man.—*Clinton Courant.*

EACH PHRENOLOGICAL FACULTY,

AS ADAPTED TO, AND EXPRESSIVE OF, A GREAT INSTITUTE OF NATURE.

NUMBER III.

INHABITIVENESS, another of the phrenological faculties, not only applies to man and animal, but expresses a universal natural institute—a *law of things*. Everything has, must needs have, its home, permanent or movable. The domicil is almost as much a necessity to man as food or breath. Even the wandering Arab has his home for the night, where he spreads his skin and forms his pillow, be it of a bunch of grass even. And every human being *seeks* a home as much as food. Marriage and young render this home requisition still more imperious. Indeed, it is more on account of our *children* that we erect homes than for ourselves. They, more than we, need a *place* to sleep, eat, and live in, and these creature comforts home alone can supply.

Nor does man alone need and build homes. All forms of life follow out this home instinct. All fowls illustrate this home law in the nests they construct; all beasts—the lion in his lair, the fox, woodchuck, and squirrel in the holes they dig, the bear and wolf in their cavern, and thus of all the others. Even the very fish form their domicil of sea-grass, in which to rear their little ones, as shown by Prof. Agassiz. The very ant has its habitation. So has every bug and worm in its nest and cocoon. And thus of every form of animal life. And what are the clothes of man, the feathers of birds, the hair and skin of animals, the scales of fish, the shells of snails, etc., but houses carried around *with* them? And what the bodies of man and all animals but abodes—tabernacles for the in-residence of the spirit-principle?

But are there no other instances of this home institute? What, pray, are the shuck and shells of nuts, the beds in which seeds are formed, the hill and hole in which the potato and all tubers grow, the socket in which the kernel of corn forms and fastens to its parent cob, etc., but the home of the child during formation? What, even, the place where each tree has planted roots in the fissures of yon rock, by yon streamlet, on yon fertile plain, but its domicil? Every blade of grass must grow *somewhere*, and that spot of mother earth in which it plants its rootlets is its home. So is that coarse integument that surrounds it. So is the bark on the tree its house. So is the place where the leaf fastens to its parental branch, and the crotch where that limb fastens to its parental trunk, the clasp of each root to its trunk, and even that bed in the sand formed by that stone, and that resting-place in the bowels of the earth where every stone resides, and every bed in every material body where each particle of matter is stationed, the base of each mountain, hillock, and stream, the abode of heart and stomach, of each bone and muscle, but the *home* of these several bodies and organs? And these illustrations but show that whatever is, animate and inanimate, each body, and every part and particle of each—everything above, upon, and within the earth, partakes of this home institute. In fact, nothing can be or exist without it. Even our earth itself, the grand home of all within and upon it, partakes of this home institute, by remaining within its own sphere or territory, never encroaching on that of another planet, and always *at home*. And this illustration applies equally to all other planets, and stars. Behold the universality of this home institute! It is a necessary and a universal condition of every form of life; nor of life merely, but of matter in all its mutations; nor of matter merely, but of existence itself—of entity, of being. And of mind as much as matter; and of each phrenological organ and faculty considered separately and in unity. In short, Inhabitiveness expresses a fact, a law, a necessary condition of things, and entitles that science which has discovered and analyzed it to the name of *Philosophy*.

The ADHESIVE element is quite as universal as the Inhabitive, Parental, and Amatory. It binds man to man in bonds which none of his other faculties could forge or entwine. It is both a necessity and a universality. Without it, man would be scattered up and down over the face of the earth, isolated and alone—his hand, like Ishmael's, against every man, and every man's hand against him—and of course engaging in no work requiring more than one to accomplish; for he could form no more idea of concert than a blind man of colors. But for this element there could be no language, for there would be no desire to communicate anything—could be no books, speeches, history, news, schools, churches, partnerships, governments, railroads, commerce, trade, manufacturing, anything. Only that could be done which one could begin and finish. And this would be but little. But it is a first principle of things that "*union* is strength." Concert of action renders the action of each all the more efficacious, and is a *sine qua non* to all that is important or great. Without it, how could even husband and wife ever join in tilling the farm or rearing their young, for there could be no concert in anything. This concert is as much a law of things as gravity of matter. The world could not exist without it. And, like all other laws, the more extensively applied, the greater the reward. Is there no *concert* of movement among the heavenly bodies? How could they exist if they did not move? and how move but for this *concert* of movement? Concert, as between sun, moon, and earth, between each and all the members of the solar system, between the sun and all that great brotherhood of stars of which it forms a member.

Equator and poles, cold and heat, summer and winter, wet and dry, tree, bough, leaf, and fruit, earth and air, mountain and valley, streamlet, river, and ocean, vegetable, animal, and man, parents and children, individuals and nations, genera, species, and individuals—all and ten thousand like illustrations of this law of this co-working law, both prove the existence and the universality of this law of concert, or embodiment.

Even the mental faculties—phrenological—furnish an additional illustration. Suppose Causality acted alone, Ideality and Color and Form each in and by itself, Amativeness irrespective of parental love, and parental of conjugal, Language of reason, and reason of Language, and so on, how could this *separate* action enjoy or accomplish anything? Two men carrying a load, carry the more and easier by stepping together. Eyes, feet, hands work easily together in attaining many a common course, unattainable by their separate action. The stomach can not say to lungs or heart, I have no need of thee, nor bone to muscle, nor muscle to nerve. On the contrary, they *collectively* form one grand whole, each in his separate department seeking the *common* good. By this bond of *community* of interest and co-workmanship, all that is, is bound together by one great fraternal ligature.

Nor are nations exempt from this fraternal law. The jealous idea that the rise of one is the fall of another, is all wrong; so the downfall of either injures all, as the prosperity of either contributes to the prosperity of all. All are brothers. Sectionalism is sin. Those who wish this union dissolved, "know not what they do." The fanatics and fire-eaters of both sections are equally guilty of conspiring to overthrow this, the only hope for the future of the race. Dissever those fraternal bonds which, consummated in 1776, achieved our ever-glorious independence, and each State sets up for itself, and wars on sister; each destroys itself in attempting to outstride or head-off the other. The true way for any section to promote its *own individual* interests, is to promote that of *all*. All are identified with all. As if heart should say, I work no more for the common good, only my own; and stomach, hereafter, I digest only for my*self;* and lungs, I breathe for number one *only*. How soon this *divided* course will *destroy* all! All these fire-eaters of east and west, north and south, are suicidal to their *own* section. But, thank Heaven, they are only a miserable minority—croakers that would not be satisfied in heaven, if there. But there is no danger of their ever getting there, for *its* motto is, "We are all a band of *brothers*."

Then let all portions of nations and states, of countries and towns, of churches and neighborhoods, of families and individuals, *fraternize*. And the more they fulfill this *fraternizing* law, the more they will prosper in their individual capacity. And always and everywhere the good *do* fraternize, while "those who stir up strife" are *themselves* the wicked ones. And that neighbor who is eternally telling how bad all his neighbors are, is *himself* the wicked one of all; and that woman who scolds and berates all around, thereby proclaims her *own* deviltry. Unity is a natural law. Its scope is *universal*. And those who fulfill its conditions the most perfectly will reap the greatest reward. Brothers in Phrenology and Reform, let us one and all work *together* in behalf of one *common cause*. And this law will crown our brotherly efforts with triumphant success.

Union for Life, or the *pairing* institute, forms another department of nature, illustrated not only by conjugality in man, and the pairing of birds and animals, but, in matter proper, by cerebellum and cerebrum, the corticle and cineritious substances of the brain and nerves; the muscles and nerves always found together, and a thousand like samples of both the existence and the universality of this dual or pairing, or conjugal or male and female order of things. But as both Adhesiveness and Amativeness cover ground quite analogous, the general idea here stated can be easily followed out into its various ramifications throughout Nature's dual economies.

CROMWELL'S HEAD.

The story some time since current that Cromwell's head was in the possession of some person in England is again revived by a Paris correspondent of the New York *Express*, and the statement bears the marks of truth.

"Before leaving England I had an opportunity of seeing a great curiosity, a relic of antiquity, which few Englishmen have seen. You will be surprised, and perhaps incredulous, when I say I have seen the *head of Oliver Cromwell*—not the mere skull, but the head entire, and in a remarkable state of preservation. Its history is authentic, and there is verbal and historical evidence to place the thing beyond cavil. Cromwell died at Hampton Court in 1658, giving the strongest evidence of his earnest convictions, and of his sincerity as a Christian. After an imposing funeral pageant, the body having been embalmed, he was buried in Westminster Abbey. On the restoration of the Stuarts he was taken up and hung in Tyburn. Afterward his head was cut off, a pike driven up through the neck and skull, and exposed on Westminster Hall. It remained there a long while, until, by some violence, the pike was broken and the head thrown down. It was picked up by a soldier and concealed, and afterward conveyed to some friend, who kept it carefully for years. Through a succession of families, which can easily be traced, it has come into the possession of the daughter of Hon. Mr. Wilkson, ex-member of parliament from Buckingham and Bromley. It was at the residence of this gentleman that I saw the head, and his daughter, a lady of fine manners and great culture, exhibited it to Rev. Mr. Verrill, the pastor of the Bromley Dissenting Chapel, and myself.

This head of Cromwell is almost entire. The flesh is black and sunken, but the features are nearly perfect, the hair still remaining, and even the large wart over one of the eyes—such being a distinctive mark on his face—is yet perfectly visible. The pike which was thrust through the neck still remains, the upper part of iron, nearly rusted off, and the lower wooden portion in splinters, showing that it was broken by some act of violence. It is known historically that Cromwell was embalmed, and no person thus cared for was ever publicly gibbeted, except this illustrious man. In addition to the most authentic records concerning the head possessed by the family, and which I have found sustained by historical works and even an old manuscript in the British Museum, Mr. Flaxman, the distinguished sculptor, once gave it as his opinion that this was none other than the head of Oliver Cromwell. Yet its existence seems almost unknown in England, and only a few years ago a discussion in some of the public journals, which I have seen, alternately denied and advocated it. Such a rumor was in circulation, and as no one had then seen the head, it having been kept concealed, none could speak by authority. Recently the motive for concealment has passed away, and permission to see it was carefully granted. It is a curious keepsake for a lady, but it is carefully preserved under lock and key in a box of great antiquity, wrapped in a number of costly envelopes; and when it is raised from its hiding-place, and held in one's hand, what a world of thought is suggested!"

Longevity among English Quakers.—For some time past the pages of the London *Lancet* have been enlivened by a controversy on tobacco, its uses, abuses, etc. Among the items which have been developed in the course of this discussion, a correspondent, "D," furnishes the following:

Mr. Niel having asserted "that Quakers, who never smoke, reach a good old age," I was determined to make inquiries on the subject, and find that here and there a smoking Quaker is to be met with, but that the habit is not common with members of the Society of Friends. Of course, there are exceptions to every rule. The following statistics can not fail to prove interesting to general readers. Smoking not only leads to drinking, "but it diminishes the *saccharine* constituents of the blood."

"In the year 1855–56 there died 287 members of the Society of Friends in Great Britain, of whom there died from birth to 5 years old, 37; from 5 to 10, 8; 10 to 15, 5; 15 to 20, 12; 20 to 30, 18; 30 to 40, 17; 40 to 50, 19; 50 to 60, 23; 60 to 70, 46; 70 to 80, 50; 80 to 90, 43; 90 to 100, 9."

From this it will be seen that the *greatest* mortality among Quakers is between the ages of 70 and 80; the next greatest, between 60 and 70; and the third greatest, between the ages of 80 and 90.

The Religion of Muscles.—The New York *Christian Inquirer* says, that the first need, perhaps, of the Church, at the present day, is not so much mind as muscle. The *Inquirer* seems to be of a like opinion with Mr. Kingsley, who describes his ideal Christian as a man who fears God and can walk a thousand miles in a thousand hours, or twist a poker around his thumb.—*Zion's Advocate.*

ROBERT W. GIBBES, M.D.

BIOGRAPHY AND PHRENOLOGICAL CHARACTER.

BIOGRAPHY.

R. W. Gibbes was born in the city of Charleston, on the 8th July, 1809. He was the son, by his second marriage, of the late venerable William Hasell Gibbes, from colonial times, until a very modern date, Master in Equity for Charleston District, and also a patriot soldier of the Revolution. His mother was Mary Philips Wilson, sister of Drs. Samuel and Robert Wilson, deceased, formerly and so long known as physicians of extensive practice, and highly esteemed, in the city of Charleston. Dr. Gibbes comes of a stock of ancestry long and honorably identified with his native State, the Hon. Robert Gibbes, the grandfather of his grandfather, William Gibbes, having been one of our Colonial Governors, and our Colonial Chief Justice in 1708. Dr. Gibbes received his school education in Charleston, and was a student at the South Carolina College, having been of the class which graduated in 1827; and of his *alma mater* he has been a trustee for ten years. Having selected the medical profession, he attended a course of lectures at Philadelphia, but took his degree of M.D. in the Medical College of the State of South Carolina, at Charleston. He married a daughter of the late venerable James S. Guignard, Esq., and settled in Columbia, where he has lived some 33 years, and has liberally contributed to, and identified himself with, every work for the advancement of the public interest, in the way of railroad enterprise, manufacturing industry, or general improvement; practised physic successfully and acceptably for 28 years; nobly sustained the hospitality of the city, and proved himself the friend of the widow and the orphan, the patron of youthful genius or merit, and the benefactor of the poor. He has twice worn the honors of the Mayoralty of Columbia, and was Assistant Professor of Chemistry in his own *alma mater*, the South Carolina College, with such reputation that he was tendered the full Professorship, which he declined, preferring to devote himself to his profession. To the medical and scientific journals of the country he has largely contributed, and many of his articles have been republished in France and Germany. His name is honorably mentioned by Humboldt in his "Kosmos," by Audubon, in his great work on Ornithology, and in other scientific journals of Europe. He is a member of as many literary and scientific societies, at home and abroad, as any man in South Carolina; and he is known to the Union as a scientific man. The late Dr. Morton, among the eminent dead, was his intimate friend; and, among the eminent living, Agassiz, Henry, Bache, Fraser, and others, bear toward him the same relation. The Smithsonian Institute has published his researches, as valuable contributions of knowledge to its scientific treasury. He is the author and compiler of several volumes of the Documentary History of South Carolina, and is the author of several other highly esteemed literary and scientific works. He has been recently re-elected President of the Medical Association of the State of South Carolina, and has often been a delegate to represent the medical profession of the State, at the National Medical Convention. Of the mechanic and business interests of Columbia he has been a constant and generous friend, liberally indorsing for their support; and it is in consequence of like liberality to the press, that, to save himself from heavy loss, he was compelled to become a newspaper proprietor and editor, greatly to the disturbance of the literary and scientific pursuits to which he is devoted, and overburdening with labor one engaged in extensive practice as a physician. The poor artist has felt the genial influence of his benevolence, and been fostered by it into fame and eminence; as witness poor Deveaux, whose remains now repose in the Eternal City. The widow and the orphan have been consoled and gladdened by him in their poverty; or, if endowed with either independence or moderate means, seek him as their business agent and counselor.

In his position of editor, his friends claim for him that he has had the distinguished honor of contending for the rights of the press and corporators against the Know Nothing Council of Columbia, who claimed the right to eject him from a public meeting lest he should report their proceedings, and he has been rewarded for his manly resistance to arrogant usurpation by a verdict in his favor. For his noble defense of the liberty of the press he deserves, and receives everywhere, the thanks of his fellow-citizens.

After several years of excessive labor in the editorial chair of the *Daily South Carolinian*, he has recently retired from its management, in which he has been eminently successful, and now

PORTRAIT OF DR. ROBERT W. GIBBES.

devotes himself entirely to his profession and literary and scientific pursuits. He is distinguished particularly in his profession by having revolutionized the treatment of *Pneumonia*, his views of which were first published in the *American Journal of Medical Sciences* in 1842. His treatment is complimented by being incorporated in "Watson's Practice," one of the best text-books of the profession. He enjoys an extensive practice in Columbia, and his reputation is only equaled by his social qualities, which make him welcome in any society. M.

PHRENOLOGICAL CHARACTER.

[It is but just to state that the following examination was made without any idea of its being published, and the examiner had no knowledge of the name, habits, or profession of the subject. We give it here *verbatim* as it fell from the lips of the examiner, and was taken down and written out by the reporter.]

You were born to wield important influence and to mold men. Are adapted to be at the head; not as much in the physical as in the intellectual and the moral world. Are proud-spirited, not in the coxcomb sense, but in pride of blood and pride of character, and of intellect. You never allow anything to compromise your reputation, and nothing will compromise it. Are a man of character, are liked by all. Are exceedingly sensitive to whatever affects your character. Are scrupulous in fulfilling every promise you make. You are a natural gentlemen; polite, cordial, courteous. Are uncommonly well calculated to please and persuade. Are certainly one of the greatest lovers of liberty to be found. Never have been and never can be led or dictated to. You don't follow public opinion, but lead it. Are an out-and-out skeptic in everything farther than you see proof. Even in religion you must know why and how before you believe, and the older you grow the less confidence you put in doctrines, and the more in an upright true life. You are very kind, obliging, and sympathetic; will often do in kindness what you would not do by compulsion or for pay. Are always kind and generous to the poor, and especially you feel it your duty to minister to the sick and despairing.

You care little about dollars to hoard; probably have enough of them because you have the intellect to make them, but you make them as an intellectual art rather than as a natural instinct, and spend freely. You will have what suits your fancy, let it cost what it will. You are a poor collector, and must make your money in some large way.

You are the personification of honor, truth, and justice. Are a candid and undisguised man. No man more so.

You are pre-eminently social; a natural gallant, and a worshiper of the gentler sex. Are always among the ladies and children. Are unusually domestic and generally liked, except by your rivals, who hate you cordially, and you hate back again, not that you have a spirit of revenge, but that you have strong indignation.

Your Cautiousness is very large, but you sometimes appear to lack it. You are very cautious in action but not prudent in expression, and not the most prudent with money. Your very largest organ next to Benevolence is that of Conscientiousness. You are rigidly, scrupulously, and sternly conscientious, not merely in business but in everything else. Are a little too censorious, too apt to blame others who do not come clear up to the top of your high standard. You can not tolerate the least departure from right in anything.

You are a man of commanding talents and of great natural observation, greater in memory, greater yet in induction. You are skillful in putting this and that together and drawing inferences, still more so in scanning and analyzing, and in presenting short pithy sentences to the point in dispute, and condensing more in the same space than most men can do, and hence your remarks often *produce a laugh*, and always carry conviction.

You are one of the best judges of character. You read a man right through at a glance; may always trust your first impressions of men. You are also agreeable, because you know just when and where to take men. You are the personification of Order. Are bound to have every single thing in its own place, so that you could put your hand in the dark upon anything that you alone use, and hence you rarely ever make mistakes.

You ought to be a professional man; were never born for private life. Were born for the world of intellect, and would exert great influence in that sphere. Names you forget. You know a thousand persons by sight, and almost all about them, but can not call them by name; but you never forget facts and principles, never faces or places. Have all the organs requisite for making a classical scholar. Are fair in mathematics, but your mechanism takes an intellectual turn. Are particularly good in telling anecdotes, and setting off things in glowing colors, besides imitating to the very life Yours is a singular head, strongly marked everywhere, inherited from your mother, who was a good and talented woman, and on that side you inherit great longevity.

You are very tenacious of life. One of the toughest of men that ever lived. Can wear like iron, and can wear out ninety-nine men in every hundred. Need not fear sickness, for your mind beats off disease and noxious influences, when most others would go to their beds or their graves.

You can speak fluently; are more distinguished for pithy remarks than for long speeches. You will make your mark, and no mistake. Could excel as a lawyer. Have just the mind requisite for the bar, only a little too much conscience. Are best adapted to the professor's chair. Would excel in the healing art. Your love for the natural sciences amounts to a passion, and your talent in that department is not often equaled. As much scholarship, as much memory, as much inductive power as you possess is altogether uncommon, and you know how to manage men. Your talents, too, are versatile. You know a little about ten thousand things. I hope your wife is fonder of money than you are, and more saving.

You are reputed to have any quantity of self-esteem, but have really too little of this organ. You are one of the most indomitably persevering men I examine—will not give up anything. I never find memory of shape better, scarcely ever as good. This will enable you to excel in the pursuit of any science or study in which the qualities of things are to be understood. You have the talents and the disposition to write, and can write well. You have apparently exercised your intellectual faculties with unwonted vigor for a few years past.

WILLIAM PAINTER.

PHRENOLOGICAL CHARACTER AND BIOGRAPHY.

PHRENOLOGICAL CHARACTER.

The person from whose portrait we dictate this character has solidity and vigor of bodily development, soundness and hardihood of constitution, which give force, endurance, energy, and practical efficiency. He has harmony of vital development and a plenty of muscular power; hence he ought to be tough, healthy, and hardy. His head is rather wide, showing a full development of Combativeness and Destructiveness, Acquisitiveness, Cautiousness, and Secretiveness. These organs give thoroughness, policy, economy, and prudence. His head rises high from the ears upward to the location of Firmness and Conscientiousness, indicating stability, determination, a strong will, self-reliance, and general integrity, and a tendency to be at the head of affairs. The center of the top-head shows rather large Veneration, which gives him respect for age, wisdom, superiority, and things sacred. His faith is not remarkably strong. He inclines to question and criticise whatever seems new, strange, and wonderful, and he is more likely to settle down on some plain, common-sense platform of faith and doctrine than he is to be carried away by enthusiasm beyond the ordinary summit-level of belief.

He appears to have a full development of the social organs, as shown by a side-view daguerreotype in our possession. He is candid in his friendships, steady in his attachments; is not much inclined to flatter and fawn upon his friends, and is fond of home and its associations. He appears to have large Benevolence, as seen by that elevation above the root of the nose, under the hair. His kindness, however, is shown in a practical way among his acquaintances, not in speculative schemes of philanthropy. His missionary money is all expended within the vicinity of his acquaintance, where he can watch its effect and know that it is properly appropriated. If a person is sick and in trouble, his sympathy and kindness are exercised liberally; and he is much more inclined to exhibit, in his general conduct, the principles of the Christian in acts of justice and neighborly kindness, than he is to accept the form of devotion and the doctrine of a creed.

The features of his character which are most distinct, as seen in the portrait, are those located in the forehead. It will be observed that his head, from the eyes outward through the temples, is broad—so much so as to make the head look rather low and flattened. This development evinces great mechanical talent and mathematical ability, power to invent and use tools, plan business, and work out results practically. He ought to have been educated for a builder or civil engineer. His organs of Calculation and Order are large, evincing system, organization, knowledge of combination and arrangement, and also great talent for reckoning figures, keeping accounts, working out problems, understanding the relations of numbers and the laws of mathematics. The whole brow is prominent—the eyes are widely spread, and every portion of the forehead indicates practical judgment, sound common sense, ability to understand business and to follow out its details thoroughly.

He has fair talking talent, a good memory of what he sees and experiences, power to look ahead and understand the effects of business operations.

He has much in his organization indicative of the pioneer spirit, and he rarely makes a move that is not dictated by sound sense. His judgment is reliable, because not too much swayed by anticipation or a warm imagination, but based upon a careful calculation and estimate of what he can make out of the circumstances or do with the means in his power. He has just the organization to work out his own success without assistance; still he ought to have been educated, at least in the sphere of the sciences, and he would have made his mark among men of culture. Without education he makes his mark among men of business.

He will be known for his sound judgment, mechanical ingenuity, strong affections, thoroughness, and uniformity; for his love of truth and disposition to fulfill his engagements, and to treat other men with justice and proper consideration.

PORTRAIT OF WILLIAM PAINTER.

BIOGRAPHY.

William Painter was born in Greene County, Ohio, April 28th, 1821. His parents were Quakers, and good, honest Ohio farmers. His ancestors were among the original settlers of Greene County, where the subject of our narrative lived, and worked on the farm till his twentieth year, when he was sent to Mount Pleasant Friends' Boarding School, where he remained for about two years, till he was employed on a farm, and a part of the time in doing carpenter work, jobbing, etc., required about the farm, among which was the building a large barn, which he did in a workmanlike manner, without having been taught the trade. He was married in June, 1843, to Caroline Fawcet, with whom he lived in Paintersville, Greene County, Ohio, till June, 1844, when she died.

In 1845 he married Elizabeth Self, when he moved to his farm, near Paintersville, where he continued farming, and, at intervals, threshing grain for the neighboring farmers on an improved machine of his own construction; also superintending the building of houses, barns, etc.

In March, 1847, he obtained an interest in a grist-mill, in Clinton County, Ohio, where, without anything to depend on but his own skill, backed by untiring energy and a strong will, succeeded, without previous apprenticeship, in running the mill himself, and making good work. At the same time he superintended the building of houses, constructing of pumps, and machinery of different kinds. In September, 1847, he took his wife and one child, and in a two-horse wagon started for Wisconsin. He arrived and pitched his tent in Grant County, at the head of Platt River, where he purchased a farm and built a cabin, lived there farming and following those mechanical pursuits for which his genius seemed to be peculiarly adapted.

In March, 1849, he started, in company with ten others, on an exploring expedition to Northern Iowa, then the habitation almost exclusively of the red man. Being struck by the beauty and fertility of the country, he with the rest determined to make it his home. Mr. Painter, with his usual decision of character, made a claim and built a cabin on the Upper Iowa River, on the place where the town of Decorah now stands.

It was here that his character began to be displayed in its true light. He soon commenced the erection of a grist-mill, an arduous task in Northern Iowa at that time for any one, but especially so for one with very limited means, and without a mechanical education. In spite of all difficulties, he succeeded in starting a mill in 1852 with one run of stones, capable of grinding from fifteen to twenty bushels of wheat per hour; this was planned by himself, and built with his own hands. The building of this mill gave a new impetus to the progress of the country, and though farmers were obliged to come here to dispose of their grain, or to get it floured, Mr. Painter was never known to take advantage of their necessities by overcharging or extortion.

He always lends a helping hand to the poor, and has been associated with the benevolent movements of the country, and is a *strict* temperance man.

He is emphatically a people's man, and may be seen about his mills, dressed in his plain clothes and large bone buttons, as he appears in the engraving, in which dress he seems to take pride. He is in favor of all the progressive movements of the age.

In 1853 he laid out the present site of Decorah, in connection with Mr. Day, and under their fostering care she has grown to her present position, as the largest town in Northern Iowa, in the short term of five years. It now contain 2,000 inhabitants, is the county seat of Winneshiek County, and the center of trade in the northern part of the State. This all radiating from the energy of one man, with very limited means, a plain farmer, without the advantages of a good education, shows that self-made men are the ones for new countries, and that well-directed energy in a good cause is almost omnipotent. If Decorah ever occupies the position that her present prospects would seem to indicate, William Painter may well be proud of the appellation of The Father of Decorah, to which he is so justly entitled.

H. K.

TODD AND BOWMAN ON PHRENOLOGY.

THE Physiological Anatomy and Physiology of Man, by R. B. Todd, M.D., F.R.S., etc., etc., and Wm. Bowman, F.R.J., etc. 1 vol., 8vo. Philadelphia: Blanchard & Lea, 1857.

Says Lewes, in his admirable "Biographical History of Philosophy," in speaking of the death of Socrates, "Every reformer has to combat with existing prejudices and deep-rooted passions. To cut his way he must displace the rubbish which encumbers it. He is, therefore, in opposition to his fellow-men, and attacks their interests. Blinded by prejudice, by passion, and by interest, men can not see the excellence of him they oppose, and hence it is, as Heine so admirably says, 'Wherever a great soul gives utterance to his thoughts, there also is Golgotha.'"

The truth of this quotation is most completely illustrated in the past history and the present and future position of Phrenology. When Gall first promulgated his system he was everywhere met by opposition, ridicule, and every annoyance which passion and prejudice could invent, and malevolence and hatred use. Only here and there was there found a man great enough to understand the greatness of the new innovation. It has been wisely and profoundly remarked, "when God sends a great man upon the earth, He raises up other great men to understand and appreciate him." The association of Spurzheim with Gall gave a new impetus to Phrenology, as we have elsewhere shown, but nowhere was it received as true by those "in authority," by those whose opinions were, "dicta probantia" with the masses. Indeed, the reception of this system has been the exact reverse of the mode of reception of every other system of philosophy known. The middle classes of the people, perceiving by instinct how completely the new system was calculated to supply their wants, gave it a hearing, a patient examination, and, at last, a hearty reception, and to-day thousands in our land stand up before their fellows better citizens, better in all their relations of life, and made better by Phrenology, a science which but few of the learned recognize as such, and which the majority affect to despise.

There is nothing so interesting to man as the world of mind, and when we reflect that Phrenology is the old system of metaphysical philosophy stripped of their barren verbiage, and made understandable and practicable in "our daily walk and conversation," and that it opens up to us that other world—the world of mind—which is the motive power of the material world about us, can we wonder that the intelligent masses embrace its truths and live them in their lives, even when the educated and erudite few reject and despise?

But a gradual change is observable in the works of the standard physiologists of the day, and we hope to live to see the time—we have seen many as great if not greater changes in opinion—when the text-books on physiology which will be put in the hands of students will advocate the doctrines of Gall and Spurzheim unchanged, except by the improvements which the lapse of years has made and will continue to make therein.

The latest text-book on physiology which is standard in the profession in all parts of the world is the one whose title is given in full at the head of this article. In order to appreciate fully its position in regard to Phrenology, let us examine its teachings as to the fundamental principles of that science.

First. The brain is the organ of the mind, or the physical instrument of thought and feeling.

This doctrine, first and scientifically demonstrated by Gall, is now taught by all physiologists, and most empathically by Todd and Bowman.

Second. The mind consists of a plurality of independent faculties or powers, each of which exercises a distinct class of functions.

On this point our author holds the following views, given in their own words: "In considering the truth or falsehood of Phrenology, it is absolutely necessary to separate the metaphysical question—as to the existence of certain faculties of the mind—from what has been admitted as a physiological fact before the foundation of the phrenological school, that the vesicular surface of the brain is the prime physical agent in the working of the intellect. A physiologist may hold the validity of this latter doctrine, and yet think as we do, that many of the so-called faculties of the phrenologists are but phases of other and larger powers of the mind; and that the psychologist must decide what are, and what are not, fundamental faculties of the mind, before the physiologist can venture to assign to each its local habitation."—Op. Citat., p. 324.

In reply to the first of these objections we remark, that if physiologists must wait until psychologists determine what are the mental faculties, they will have an interesting time waiting, since these same psychologists have been attempting to solve this same problem for hundreds of years, and are apparently as many hundreds still from its solution. The truth is, that psychological investigations never moved onward in a direct line toward important and practicable results until physiologists threw the light of their science upon the circular road they had worn into deep ruts by hundreds of years of profitless travel.

You might upon the same principle ask the physician to an insane asylum to desist from his efforts to cure this terrible disease until after the psychologists had settled the question, whether insanity is a disease of the mind alone, or of the brain, or of both. These psychologists are a very particular class of people, and if any venture to assert that insanity has its seat in a diseased condition of the brain, they incontinently begin to throw mud, they call hard names, and cry out "materialist," "infidel," and rise many other choice epithets, which mean—nothing to sensible men.

If, as Messrs. T. and B. state, "many of the so-called faculties of the phrenologists are but phases *of other and larger* POWERS *of the mind*," they are teaching the phrenological doctrine we have just cited, that the mind is composed of a plurality of *faculties* or *powers*, but differ from us as to the number of those powers. This is a great concession, and we propose to rest the matter here for the present, confident that a little more investigation will enable them to increase the number of these "other and larger powers of the mind" from two, four, or eight, as the case may be, to the forty of phrenologists. After the admitting of more than one power of the mind, the addition of thirty odd others is a mere matter of time and phrenology, and phrenologists can *afford to wait*.

ENGRAVING ON METAL, WOOD, AND STONE.

BY JOHN COLLINS.

CHAPTER III.

WOOD ENGRAVING.—For this purpose the wood of the box tree (*Buxus sempervirens*) is exclusively employed. That used for pictorial purposes is imported from Constantinople, Smyrna, Trieste, and the Black Sea, in logs that measure from two to six feet long, and two and a half to fourteen inches diameter. The wood is hard, very fine grained, and often of a rich yellow color. It is sold in this country at prices ranging from $80 to $120 per ton. For use, it is cut across the grain in slices of nearly one inch in thickness, and planed smooth on one side. When a large block is wanted, two or more pieces are fastened together by wooden pins and glue. When this has been imperfectly done, the defect will be shown by a white line in the printed engraving. The prepared blocks are sold at from two to four cents per square inch, according to the quality. Before executing a design on wood, the surface is moistened and rubbed with a little flake white or an enameled card, to show the dark lines more plainly. The drawing is made in lead pencil and India ink, or it may be transferred from the original by tracing. An impression of any other engraving printed in ink may, by pressure, be transferred upon the block.

There are four kinds of tools used upon wood, namely: gravers, tint tools, gouges or scoopers, and flat tints or chisels. The first named differ but little from those used by engravers on metal; the bevel at the point is, however, longer. Eight or nine of these, of different sizes, are necessary. To cut parallel lines forming an even and uniform tint, such as we often see in the representation of a clear sky in wood cuts, tint tools, or very thin chisels, somewhat resembling a morticing chisel, are used. Gouges from the one twenty-fifth to one fifth of an inch in breadth are employed for scraping out the wood toward the center of the block, while flat tools or chisels of various sizes serve for cutting away the wood toward the edges. All the tools are secured in a handle, which is frequently a piece of cork.

There are two modes of engraving in wood, exactly the reverse of each other. For portraits, landscapes, and book illustrations in general, the white parts are cut away, while in xylography (a Greek name for wood engraving) the lines of the drawing are engraved so that, when printed, they are white on a black ground. This plan is well adapted for outlines and mathematical figures, as the effect is more striking and the work is more cheaply executed. A xylographic office was, a few years ago, in successful operation in Philadelphia, for engraving business and advertising cards printed in colors, but this application of the art has been superseded by the facilities of lithography.

In transferring daguerreotypes to wood, a thin, transparent piece of isingla s or fish glue is used to make a tracing, with red-chalk ink and a fine brush, which is then pressed upon the block. In working by lamp or gas light, wood engravers sometimes use a large glass globe filled with water, by which the rays are concentrated upon the engraving, affording a strong and pleasant

light. A single lamp can by this contrivance suffice for three or four workmen, each having his own globe. The block of wood is occasionally engraved on both sides, but this is the case only when copies are to be cut from it in type metal, the original cast not being used. Wood cuts are worn but little in the operation of printing. In careful hands, and under moderate pressure, they will yield from 100,000 to 150,000 good impressions.

CHAPTER IV.

LITHOGRAPHY—or the art of drawing and engraving on stone—was invented by Aloys Senefelder, born at Prague, in 1771. When connected with a theatrical troup at Munich, he devoted himself to literary labor, but met with many reverses and discouragements in the printing of his works. He conceived the idea of executing the latter himself, and first invented stereotyping in sealing wax, which proved too brittle for the purpose. He then wrote in reverse on a copper plate, etching ground of varnish, and then etched the letters into the plate with acid. But this would not answer, as the plates wore away too fast. After repeated trials, his memory recurred to the white stones he had seen on the banks of the Iser, the same that are now used. He tried them and with perfect success. For five years he was accustomed to cover the surface with wax, soap, and turpentine, and etch the stone in the usual way. In 1796, having written a memorandum on a stone with a pencil, for want of paper at the time, intending afterward to copy it, he carelessly dropped it into a slop bucket. Taking it out quickly, he noticed that the writing was covered with a thick coat of grease, while the other parts had not been affected by it. It then occurred to him to try the effect of etching it and charging ti with printer's ink. The result was beyond his expectations, and, thus stimulated, within the short space of three years he discovered or invented pen drawing, chalk drawing, point engraving, autography, transferring of new and old engravings, and every modification of lithography now known. He applied the art to printing cloths and paper hangings, experimented on artificial stones, invented mosaic printing, a new stereotyping process, and a lithographic press.

Senefelder died at Munich, 63 years of age, honored, pensioned, and beloved, and over his grave was placed a monument made of the same stone that now gives employment to thousands, and the enjoyment of the works of art to tens of millions of human beings.

Lithography was established at Munich, in 1800, at Vienna in 1802, and at Rome and London in 1814.

At the time of its invention, Napoleon, who then reigned in France, would not permit its introduction, assigning as a reason, that it might be improperly applied to the counterfeiting of manuscripts, bank notes, and important documents. Consequently, lithography was not introduced until 1814, after the restoration of the Bourbons.

The first lithographic office in the United States was established at Boston by William S. Pendleton, in 1827.

The theory of lithography is at once simple and beautiful. It is based upon the relative adhesion of three materials, viz., oil, water, and lithographic stone. The drawing or ink lines being made with a greasy crayon or fat ink, if water be put upon the stone, it adheres so closely to the latter and so slightly to the greasy parts, that a roller charged with printing ink can be rolled over the surface without passing through the water, while, on the other hand, the ink lines are filled with printing ink. Therefore the artist must draw in reverse on the stone, exactly what is to appear in the print, and protect all the other parts from dust, saliva, finger marks, soap, etc. The printer, on his part, must endeavor to take all the impressions of a uniform depth of color, as near the original drawing as possible. Artists and printers are very apt to accuse each other of careless work, and it is certain that each must do his part perfectly, to produce good results. Crayon drawings will give from 500 to 1,500 perfect impressions, while from ink drawings from 5,000 to 10,000 have been obtained. Transfers from steel or copper yield from 1,000 to 5,000, but transfers from crayon are generally considered impracticable as it is difficult to find two stones of exactly simlar grain.

Lithographic stones, which are all limestone or calcareous, with a mixture of alumina or silex, are obtained almost exclusively from the quarries of Pappenheim and Solnhofen, in Bavaria, near Munich, where the inhabitants use them for paving, steps, and tombstones. They are also procured from several places in France, near Bath in England, and in one or two localities in Scotland—but those from Bavaria are preferred to all others, for their color, grain, and their facilities for working. They are found near the surface, overlying granite, and are quarried in blocks, which are split by wedges or sawed into slabs, being afterward shaped or dressed on one or both sides, and made perfectly plane with stone hammers. Their color varies, from a rich cream to a dark bluish slate—the latter, being the hardest, are mostly used for engraving. The price ranges from five to ten cents per pound, according to the size, the larger ones being the most expensive. The thickness should be proportionate to the area of the surface. Stones five feet in length by four in breadth have occasionally been imported, but their great weight is an objection to their use. When they have been worn down by frequent grindings, so as to be likely to break from heavy pressure, two of the same size are often fastened together with plaster of Paris. To prepare them for crayon or chalk work, two are rubbed together, face to face, on a board over a trough with fine sand and water, until the whole surface, when wiped dry and held obliquely to a strong light, presents a uniform grained appearance. The longer the rubbing is continued, the finer and flatter will be the grain. For ink drawings the face is made perfectly smooth and polished with pumice stone.

[We postpone the remainder of this interesting chapter and will give the conclusion in our next number.]

SCIENCE is the interpreter of Nature. It reverently inquires; it listens to know; it seeks; it knocks to obtain communication; and then, all that it does is reverently to record Nature's processes, and accept them as true.—H. MANN.

EXTRAORDINARY RECOVERY.

WHEN I was forty years old, say in July, 1846, in driving a yoke of oxen with a cart, they ran off with me, upsetting the cart, which rolled over me and left me lying in a helpless condition. A number of ribs were broken in my left side, the left lobe of my lungs was either ruptured by the force of the blow struck by the cart, or cut by the broken points of the ribs. I began to throw up blood immediately, which lasted for a week; the air escaped from my lungs, distending my abdomen into dimensions similar to a toad; the air also came through where my ribs were broken, raising bladders on my side to near the extent of my hand. Being helped home, I lay for some weeks on my back; the weather being hot, I could scarcely be kept alive by the best appliances—bathing and fanning—every breath was a struggle for life, and only breath enough to utter one syllable at a time. The injured parts being in contact, a great adhesion as well as consolidation of the left lobe of the lungs took place. The adhesion will not yet let me ride a horse except on a walk. My breathing is comfortable now, but my wind is too short to run, or climb hills in a hurry. My improvement in strength was slow and but little, and I could hardly keep up, when near two years after, I was thrown from a horse and nearly killed a second time. Persons near ran to my assistance and found me dead to appearances, and say that I did not breathe for some twenty minutes. Life returned, but found me in a state of delirium which continued for a week or ten days, during which time I could walk about the house, but grew weaker when consciousness returned, and I could scarcely walk for some weeks. I have no recollection of *anything* which transpired during my delirium, nor even of the (*beginning* of the) accident by which I was hurt. When the delirium subsided I became conscious of the injuries I had sustained. When thrown from the horse I fell on my shoulders and the back of my head, and was dragged by the stirrup several rods. My skull remained unbroken, but a great injury to my eyes and the intellectual region of my brain was the result, though I fell on the back of my head. I found my eyes distorted, and the whole brain much excited, but the frontal portion particularly.

All things presented a double appearance to my eyes unless I would look hard across my nose to the left; they could not bear the light, nor could they determine the distance of objects; all things are yet double when looking past the center toward the right; my eyes are now otherwise right. In regard to the intellectual functions—while in the state of delirium—I was continually reading and talking; reading without a book, wetting my thumb and making the motion as if turning a leaf with great regularity. I have been told that I was reading Latin, though I know nothing about Latin, but had been reading for some time previous in the theological writings of Swedenborg, which I knew had been written in Latin. After the delirium my intellect was brighter than ever for more than a year. I could invent, propound, and answer many questions of natural philosophy, make numerical calculations mentally, and solve mathematical propositions with greater facility than ever before or since.

The organ of Language being excited among the

rest, as well as Eventuality, kept up the love of talk for a year or more. My language was more fluent than usual. I could relate past events with great accuracy, and the incidents of my childhood returned with the freshness of yesterday.

Now for a fact in Phrenology.

As the excitement subsided, occasionally a word would slip recollection, which I could not recall, though I would know its meaning and force ever so well. In the effort to think up the word, I could feel a moving in the brain immediately over the sockets of my eyes as plainly as the rubbing of my hands together; there was an effort of the organ of Language which I was perfectly sensible of. My brain was in a highly sensitive state.

While lying in the state of delirium I was drugged with calomel, the effects of which for some months seemed to be good—but then subsiding—left me in a miserable condition. I had been dyspeptical for years, but the calomel in its deleterious effects increased the difficulty a thousandfold. My head grew worse, every effort of thought was painful, the music of the birds in the morning ran through my head like a knife. I lived along miserably for two years after the last hurt. I then tried *water-cure*. I have become a new man compared with what I was, but am still in a very irritable state mentally and bodily. I avoid study, though much inclined to it. My bump of Concentrativeness is enormous, amounting almost to a deformity, and would soon run me into the ground; it always made me study harder than I could bear, and makes me labor mentally when I ought to be asleep.

I avoid mental excitement as far as possible. I use no pork, salt, nor seasoning of any kind. I consider salt worse than useless, and productive of much disease; butter and meats are sweeter and richer to me without than ever they were with it.

It is now ten years since my last hurt, and eight since I began the *water-cure*.

I could write more in detail concerning my present and past condition, but I have given the grand facts upon which scientific men can speculate. Yours, etc., J. C.

Moore's Saltworks, Jefferson Co., O.

Unsuccessful in this Life.—There is truth beautifully expressed, and words of cheer for multitudes, in the following sentiment accredited to George S. Hillard:

"I confess that increasing years bring with them increased respect for those who do not succeed in life, as those words are commonly used. Heaven is said to be a place for those who have not succeeded in life; and it is surely true that celestial graces do not best thrive and bloom in the hot blaze of worldly prosperity. Ill success sometimes rises from superabundance of qualities in themselves good—from a conscience too sensitive, a taste too fastidious, a self-forgetfulness too romantic, a modesty too retiring. I will not go so far as to say, with a living poet, that the world knows nothing of its greatest men; but there are forms of greatness, or at least of excellence, that die and make no sign; there are martyrs that miss the palm, but not the stake; there are heroes without the laurel, and conquerors without the triumph."

TWENTY-FOUR THINGS,

In which people render themselves very impolite, annoying, or ridiculous:

1. Boisterous laughter.
2. Reading when others are talking.
3. Leaving a stranger without a seat.
4. A want of reverence for superiors.
5. Receiving a present without some manifestation of gratitude.
6. Making yourself the topic of conversation.
7. Laughing at the mistakes of others.
8. Joking others in company.
9. Correcting older persons than yourself, especially parents.
10. To commence talking before others are through.
11. Answering questions when put to others.
12. Commencing to eat as soon as you get to the table.
13. Whispering or talking loudly in church, at a lecture or concert, or leaving before it is closed.
14. Cutting or biting the finger nails in company, or picking the teeth, or the nose, pulling hairs therefrom.
15. Drumming with the feet or fingers, or leaning back in a chair, or putting the feet upon furniture.
16. Gazing at strangers, or listening to the conversation of others when not addressed to you nor intended for your hearing.
17. Reading aloud in company without being asked, or talking, whispering, or doing anything that diverts attention while a person is reading for the edification of the company.
18. Talking of private affairs loudly in cars, ferry-boats, stages, or at a public table, or questioning an acquaintance about his business or his personal and private matters anywhere in company, especially in a loud tone.
19. In not listening to what one is saying, in company—unless you desire to show contempt for the speaker. A well-bred person will not make an observation while another of the company is addressing himself to it.
20. Breaking in upon or interrupting persons when engaged in business. If they are to be long engaged, or you are known to have come from a distance, they will offer to give you attention at the earliest moment.
21. Peeping from private rooms into the hall when persons are passing, coming in or going out; or looking over the banisters to see who is coming when the door-bell rings.
22. When you are in an office or house, or private room of a friend, never handle things, asking their use, price, etc., nor handle or read any written paper; it is a great impertinence, and most intolerable.
23. Never stand talking with a friend in the middle of the sidewalk, making everybody run around you; and never skulk along on the left-hand side, but "take the right" in all cases. Two persons abreast meeting one person on a narrow walk should not sweep him off into the mud, but one should fall back a step and pass in single file.
24. Mind your own business, and let your friend have time, without annoyance, to attend to his.

MUSIC OF LABOR.

The banging of the hammer,
The whirring of the plane,
The crashingof the busy saw,
The creaking of the crane,
The ringing of the anvil,
The grating of the drill,
The clattering of the turning-lathe,
The whirling of the mill,
The buzzing of the spindle,
The rattling of the loom,
The puffing of the engine,
The fan's continued boom,
The clipping of the tailor's shears,
The driving of the awl—
These sounds of honest Industry,
I love—I love them all.

The clicking of the magic type,
The earnest talk of men,
The toiling of the giant press,
The scratching of the pen,
The tapping of the yard-stick,
The tinkling of the scales,
The whistling of the needle
(When no bright cheek it pales),
The humming of the cooking-stove,
The surging of the broom,
The pattering feet of childhood,
The housewife's busy hum,
The buzzing of the scholars,
The teacher's kindly call—
The sounds of active Industry,
I love—I love them all.

I love the plowman's whistle,
The reaper's cheerful song,
The drover's oft-repeated shout,
Spurring his stock along,
The bustle of the market-man,
As he hies him to the town;
The halloa from the tree-top,
As the ripened fruit comes down;
The busy sound of threshers,
As they clean the ripened grain;
The husker's joke and catch of glee,
'Neath the moonlight on the plain,
The kind voice of the drayman,
The shepherd's gentle call—
These pleasant sounds of Industry,
I love—I love them all.

Oh, there's a *good* in labor,
If we labor but aright,
That gives vigor to the day-time,
A sweeter sleep at night;
A good that bringeth pleasure,
Even to the toiling hours;
For duty cheers the spirit,
As dew revives the flowers.
Then say not that Jehovah
Gave labor as a *doom*—
No! 'tis the richest mercy
From the cradle to the tomb.
Then let us still be doing
Whate'er we find to do,
With cheerful, hopeful spirit,
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A. E. D., Ohio.—Why, in matrimony, in some cases, should the temperaments be CROSSED, and in others should not be, and in WHAT cases should they not be?

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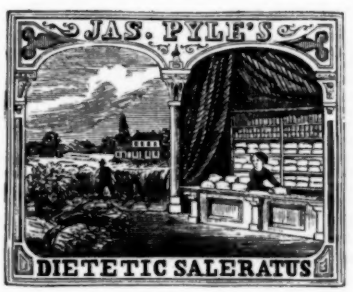

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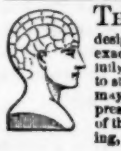

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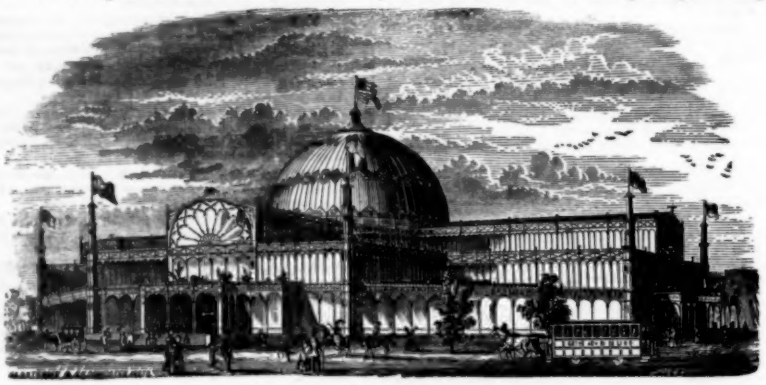
THE CRYSTAL PALACE.

The Crystal Palace is no more! About 5 o'clock in the afternoon of Tuesday, Oct. 5th, a fire was discovered in the North Nave on Forty-second Street, and in fifteen minutes thereafter the dome fell. The whole of the immense and beautiful structure was a heap of smouldering ruins in less than half an hour from the first alarm. The place where the fire originated had been for some time



THE NEW YORK CRYSTAL PALACE.

used as a lumber-room, no fire being near. The structure was built on the "cut and try" principle, or by what is known as the "scribe rule," and every part of it had to be more or less sprung, in order to bring the parts into place, so that the moment heat began to expand the metal, the woodwork and directly combustible materials would be separated from the iron, letting in currents of air, and breaking the gas pipes; also immediately commencing to melt the glass, and so soon as the wrought-iron braces began to yield, the whole structure immediately fell in. When first noticed the fire was a small flame, but spread with a rapidity almost unparalleled, circumstances which strongly indicate that the catastrophe was not accidental. The building was occupied by the American Institute Fair, and about two thousand persons were in it when the alarm was given, and it is believed every one escaped. The entrance on Sixth Avenue was the only one by which the crowd could escape. Persons having charge of things in the Palace, in the employ of the American Institute, manifested much presence of mind, looking about in the different and distant parts, to notify people of their danger. So rapid was the destruction, that the exhibitors present were unable to save any of their property, except what they could take with them as they escaped. We give our readers a parting look at the Palace by means of the engraving. Many of them have walked its extended naves in the days of its glory, and will remember the fact with pleasure.

PHRENOLOGY IN HALIFAX, N. S.

We take the following from the Halifax *Evening Express* for Sept. 13:

Professor Fowler's Lectures. — Reasons given in our issue of last Friday for the exclusion of several articles on local subjects, also operated in preventing us from noticing the very interesting and deservedly popular course of lectures on the science of Phrenology, delivered by Prof. Fowler last week at Temperance Hall. We experienced more than ordinary satisfaction in being able to attend these lectures each evening during the course, and we were pleased to observe the growing interest manifested by our most intelligent citizens in the intellectual discourses of the talented professor.

It is impossible to listen to him for an hour and not be convinced of the truth and philosophy of the science in which he is so decided an enthusiast. The listener is not entertained with flights of fancy and figures of rhetoric which, while they please the ear, fail to carry conviction to the mind or convince the understanding; on the contrary, all the multifarious views of the vast field which the science embraces, are enforced in a practical, common-sense manner, and are illustrated with a clearness and simplicity surprisingly intelligible. No person of ordinary perceptions can attend these lectures without receiving much valuable information which may be turned to important account in the occurrences of every-day life. In the hands of Professor Fowler, Phrenology is made to inculcate a morality as lofty, and a degree of human wisdom as exalted, as was ever taught by saint or sage, and the quaint remarks and original ideas to which he gives expression in describing the numerous organs which Phrenology teaches us the human head is composed of, are interestingly instructive. At the close of the discourse on each evening during the course, the phrenological developments of several of our most widely-known citizens were examined and explained, and the qualities of mind for which they were likely to be best known in the community were described with such minute correctness as to elicit the universal approbation of the audiences.

A second course of three lectures (also by request) is to be delivered by the Professor at Temperance Hall, commencing this (Monday) evening, and from the growing interest manifested in the course just terminated, we have no doubt but large audiences will attend on each night.

Brain and Body.—The daughter of a Boston merchant, who applied herself night and day to study, to obtain a medal at the late school exhibitions, and succeeded, has been ever since in a state bordering on insanity in consequence of overtasking the brain, and there is little prospect of her recovery. If her brain could have been maintained in a separate establishment, and worked upon independent volition, probably such a disaster would never have occurred. But as things are constituted, it will not do to forget the connection which exists between mind and body, faculties and muscles, brain and nerves. The system which is deprived of needed physical recreation must break down. It is the height of folly to suppose that we can ignore the demands of Nature in any respect without paying the penalty. It is curious to see the connection between mental and physical faculties. The idea that a man can only get the dyspepsia from high-seasoned provender put upon the stomach is absurd. He is just as likely to secure that luxury by stuffing his head with Greek and Latin, algebra and geometry, in undue proportions, and at improper hours. The shaky, rattling, disordered, jaundiced, bilious, and bloodless systems that go flitting by like ghosts upon every thoroughfare, are standing commentaries upon the false ideas of the day in this respect It is a peculiarity of this age, that two thirds of its living skeletons are epitomes of theoretical knowledge upon almost every subject under the sun. This is not invariably the case, but it is the general rule. The exceptions prove that a person can be something more than a dunce, without being something less than a man or woman, and that, with proper management, it is possible to secure the most valuable mental acquisitions without sacrificing in their pursuit physical capacities, and becoming an especial candidate for a mad-house or a consumption-hospital.—*Troy Times.*

An Incident.—A touching case, says the New Orleans *Delta*, was presented the other day to the consideration and charity of one of the Good Samaritans who now take care of the sick, relieve the destitute, and feed the starving. A boy was discovered in the morning, lying in the grass of Claiborne Street, evidently bright and intelligent, but sick. A man who has the feelings of kindness strongly developed went to him, shook him by the shoulder, and asked him what he was doing there. "Waiting for God to come for me," said he "What do you mean?" said the gentleman, touched by the pathetic tone of the answer, and the condition of the boy, in whose eye and flushed face he saw the evidences of fever. "God sent for mother, father, and little brother," said he, "and took them away to his home, up in the sky; and mother told me, when she was sick, that God would take care of me. I have no home, nobody to give me anything; and so I came out here, and have been looking so long up in the sky for God to come and take care of me, as mother said he would. He will come, won't he? Mother never told me a lie." "Yes, my lad," said the man, overcome with emotion; "he has sent me to take care of you" You should have seen his eyes flash, and the smile of triumph break over his face as he said, "Mother never told me a lie, sir; but you've been so long on the way!" What a lesson of trust, and how this incident shows the effect of never deceiving children with idle tales! As the poor mother expected, when she told her son "God would take care of him," he did, by touching the heart of this benevolent man with compassion and love to the little stranger.